

**Claims**

1. Use of xenon or a xenon gas mixture for the preparation of a pharmaceutical composition for treating (a) aberrant or undesired apoptosis or (b) a disease associated with aberrant apoptosis.
2. Use according to claim 1 for preventing or reducing cellular damage of tissue or organs to be transplanted.
3. Use according to claim for preventing or reducing apoptotic cell death after eye laser surgery.
4. Use according to claim 1 for protecting endothelial cells of the intestine in sepsis.
5. Use according to any one of claims 1 to 4 wherein the pharmaceutical preparation contains 5 to 90% by volume of xenon.
6. Use according to claim 5 wherein the pharmaceutical preparation contains 5 to 30% by volume of xenon.
7. Use according to any one of claims 1 to 6 wherein the pharmaceutical preparation additionally contains oxygen, nitrogen and/or air.
8. Use according to any of claims 1 to 6 wherein the pharmaceutical preparation additionally contains helium, NO, CO, CO<sub>2</sub>, other gaseous compounds and/or inhalable medicaments.
9. Use according to claim 5 wherein the pharmaceutical preparation has a ratio of xenon to oxygen of 80 to 20% by volume.

10. A method of preparing a pharmaceutical preparation by mixing xenon with another gas harmless to humans.

11. The method of claim 10 wherein xenon is mixed with an oxygen-containing gas.